



Preface

This special issue includes 9 selected papers from the 28th International Colloquium on Automata, Languages and Programming (ICALP 2001) held on July 8–12, 2001, in Hersonissos on Crete, Greece. The papers were selected on the basis of their originality, quality, and relevance to the broad spectrum of modern developments in theoretical computer science.

ICALP is the Annual International Conference of the European Association for Theoretical Computer Science (EATCS). For more than 30 years it is one of the main international conferences devoted to the foundations of informatics and computing. ICALP 2001 was very special, because two other leading conferences are co-located with it; the 13th Annual ACM Symposium on Parallel Computing and Architectures (SPAA 2001), and the 33rd Annual ACM Symposium on Theory of Computing (STOC 2001). For STOC it was the first time to be held in Europe. The conferences provided a unique opportunity to witness the recent advances in the numerous, joint directions of research within theoretical computer science.

The scientific program of ICALP is traditionally divided into two tracks: Track A devoted to algorithms, automata and complexity theory, and Track B devoted to formal models, semantics, and theory of programming. Following the rapidly expanding role of theory in computer science, ICALP is likely to have further tracks in the coming years devoted to, e.g. the foundations of information security, principles of global computing systems, or non-classical computation.

The papers in this volume were selected from the best and most representative papers presented in Tracks A (5 papers) and B (4 papers) of ICALP 2001. Together they demonstrate the excellent progress in theoretical computer science, ranging from algebraic complexity to architectural specifications, with novel approaches and proof techniques. The selected papers also give an excellent view of the varied application domains in which theory plays a role.

The proceedings of ICALP 2001 were published in the series Lecture Notes in Computer Science (Volume 2076) of Springer-Verlag. All 9 papers selected for this special issue were revised and extended by their authors and refereed again, following the standards of the

journal. We are grateful to the referees and to the authors for their excellent efforts that led to the final versions now appearing in this issue.

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